

# Sundolitt Expanded Polystyrene

## Control of Substances Hazardous to Health

### - COSHH -

#### ● **Manufacturer**

Sundolitt Limited, Mirren Court (Three), 123 Renfrew Road, Paisley, PA3 4EA, Scotland

#### ● **The Product**

Expanded Polystyrene (EPS) manufactured by Sundolitt Limited, in compliance with BS EN 13163: 2001.

Properties	
Physical Form	Closed Cell Foam
Product	Sheets, Blocks & Moulded Forms
Density	From 10.0 to 30.0 kg/m <sup>3</sup>
Colour	White
Solubility in Water	Non Soluble
Solubility in Other Solvents	Soluble in aromatic, halogenated solvents & ketones
Softening Temperature	Between 95 and 100°C
Ignition Temperature in Air	350°C

#### ● **Applications**

Expanded Polystyrene is manufactured for a variety of applications. The most common of those are (a) for insulation in floors, walls and roofs (b) for void-fill in construction projects and (c) in moulded form for a wide variety of uses in both construction and packaging/protection.

#### ● **Precautions**

EPS is a stable, non-toxic and inert product. However, some basic precautions are necessary in its storage and use. EPS is inflammable and precautions are required in its handling, storage and installation to avoid ignition. EPS should be protected from contact with solvent based products and petroleum spillage. Plasticised PVC electric cabling may react when in direct contact with EPS, it is therefore recommended that PVC cabling be run through a conduit.

#### ● **Storage**

EPS should be stored in a manner in which it is protected from any potential fire hazard or potential cause of ignition. EPS should be protected from coming into contact with flammable materials such as solvents, petroleum products or paints. EPS should be stored on a level surface. EPS should be stored under cover to provide protection from direct sunlight, wind and rain. EPS has no nutritional value to support fungal, bacteriological or animal growth. Storage areas should be kept free from any rubbish which may cause fire to spread or which may be liable to spontaneously ignite. If large volumes of EPS are to be stored in one location, consideration should be given to the provision of a sprinkler system. On site, the above storage recommendations are valid, with the addition that the EPS should be raised above damp or wet surfaces.

#### ● **Handling**

EPS is a lightweight product which can easily be handled and moved on site. Individual boards can normally be carried by one person, however, it is recommended that to avoid damage in winds, the sheets are carried by two people. EPS

is non-toxic, inert and contains no chlorofluorocarbons - CFCs or hydrochlorofluorocarbons - HCFs. It is not known to cause any skin irritations and requires no special protective clothing or masks when handling or installing it.

● **Occupational Exposure**

Occupational Exposure Limits for the expansion agent (Pentane) and decomposition products (Styrene Monomer) and, in the case of Euroclass type e self-extinguishing EPS, (Hydrogen Bromide).

Component	Limit Type	Value
Pentane	TWA 8 hours	600 ppm
	STEL 15 minutes	750 ppm
Styrene Monomer	TWA 8 hours	430 mg/m <sup>3</sup>
	STEL 15 minutes	1080 mg/m <sup>3</sup>

\*Euroclass type e self-extinguishing material only

● **Stability**

EPS is a stable material under normal conditions of use. The following conditions are to be avoided - naked flames, heat, sparks, exposure to strong sunlight for extended periods, exposure to solvents, petroleum products or paints. EPS decomposes above 200°C.

● **Cutting**

Cutting is normally done by means of a hot wire. Care must be taken during such an operation, to avoid any risk of ignition. Ventilation should also be provided to obviate any potential for nasal or optical irritation, during hot wire cutting. If cutting is done by bandsaw or grinder, appropriate dust extraction is necessary to ensure exposure does not exceed 10mg/m<sup>3</sup> 8 hrs TWA (Occupational Exposure to total inhalation of dust). Cutting should be done at a safe distance from any stored EPS.

● **Fire Precautions**

EPS is combustible, caution must therefore be exercised when storing, handling, cutting and installing EPS, to ensure the material is not exposed to naked flame, or flammable materials. Smoking must not be permitted where EPS is being stored, handled, cut or installed. Polystyrene dust is a Group(a) flammable dust (like other hydrocarbon based polymers) and precautions, as required by Section 31 of the Factories Act 1961, must be taken.

● **In the Event of Fire**

The gasses given off by EPS do not differ essentially from those of any organic material, consisting as it does, of 98% air. No special measures are required for dealing with residues or water used to extinguish a fire.

● **Fire extinguishment**

Appropriate fire extinguishment facilities should be readily available, at all times, in any area where EPS is stored, handled, cut or is being installed. Dry powder, carbon dioxide or foam extinguishers, water and sand are all methods of fire extinguishment suitable for use in the event of a fire involving EPS. As in the case of any fire, all personnel, apart from those who are directly involved in fighting the fire, should immediately be evacuated from the building.

● **999**

If you have to contact the Fire Brigade, you should advise them that the fire involves expanded polystyrene.

● **Fumes**

In the event of a fire, EPS may produce carbon monoxide and carbon dioxide which are potentially toxic. If the EPS is specially treated to be fire retardant, hydrogen bromide may also be produced.

● **Accidental Release**

EPS is normally sold in solid form and does not release any harmful substances. It requires no special protective clothing or masks when handling or installing it. In the case of expanded bead, clean up spills and prevent from entering drainage systems.

● **Disposal**

Polystyrene can be disposed of in a number of ways. It can be recycled, through a registered recycler, and used for products such as door and window frames. It is not designated as 'Notifiable Waste'. It can be used to fuel power generation. EPS can be disposed of at suitable landfill sites or incinerated under controlled conditions. EPS is not biodegradable. Small particles may have a physical effect on aquatic and terrestrial organisms. Euroclass type e expanded polystyrene contains an encapsulated flame retardant additive which, during incineration, may emit hydrogen bromide.

● **First Aid**

● **Skin Contact:** Molten material - Flood the affected area of skin with lots of cold water. Do not try to remove the molten material. Seek medical assistance  
● **Smoke Inhalation:** Remove the person so affected, to an area with clean smoke free air. Keep them warm and relaxed. Be prepared to administer oxygen if they show signs of distress.

● **Dust Inhalation:** Clear the respiratory

tracts of the person so affected

● **Eye Contact:** Rinse the eye thoroughly, with clean water.

In all cases, if recovery does

not occur, seek medical assistance.

The foregoing is provided by Sundolitt Limited for guidance purposes only. It remains the responsibility of the purchaser of the EPS to ensure that correct precautions are taken at all times in the storing, handling, cutting and installation of EPS. This document should be brought to the attention of the person responsible for Health & Safety matters.

**Contact with Sundolitt Limited: [enquiries@sundolitt.com](mailto:enquiries@sundolitt.com)**

4<sup>th</sup> April 2007